

WHAT IS CLAIMED IS:

1. A uniaxial drive unit using a linear motor, comprising:
a fixed part which is a rod-shaped magnet fixed to a unit body and formed so
that the N poles and the S poles are arranged alternately,
5 a moving part which is a ring-shaped member having a coil member, fitted on
said fixed part, and capable of moving along said fixed part,
a driving section which is driven by driving force of said linear motor, the
driving section being slidable in the uniaxial direction with respect to said unit body,
a winding motion transmission member which transmits driving force of said
10 linear motor to said driving section; and
a winding motion transmitting support member which supports said winding
motion transmission member, the winding motion transmitting support member being
provided near one end or both ends of said unit body, wherein
said driving section is connected to said moving part or a member fixed to said
15 moving part by said winding motion transmission member via said winding motion
transmitting support member.
2. The uniaxial drive unit according to claim 1, further comprising a balance
weight fixed to said moving part so as to balance with said driving section.
3. The uniaxial drive unit according to claim 2, wherein the total weight of said
20 balance weight and said moving part is approximately equal to the weight of said driving
section.
4. The uniaxial drive unit according to claim 2, wherein the total weight of said
balance weight and said moving part is in the range of 20% up and down with respect to
the weight of said driving section.
- 25 5. The uniaxial drive unit according to claim 1, wherein the end of said winding
motion transmission member is fixed to said driving section in substantially the same
plane as the slide face between said unit body and said driving section.

6. A surface shape measuring apparatus which measures the surface shape of an object under test by relatively moving a detecting section along the surface of said object under test, wherein

5 the uniaxial drive unit according to claim 1 is used to relatively move said detecting section fixed to said driving section.